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**UM RESEARCHER: SWIMMER'S ITCH MOST COMMON IN JULY, AUGUST**

**MISSOULA--**

Pure and pristine though they seem, western Montana's lakes and rivers sometimes offer an itchy surprise.

Bill Granath Jr., a University of Montana-Missoula microbiologist, said from mid-July to the end of August is the peak time to contract swimmer's itch -- irritating swollen bumps caused by an aquatic parasite. The itch, also called schistosome dermatitis, afflicts people in waterways around the world and is especially prevalent in the Upper Midwest. In Montana, Flathead Lake is a prime location to catch swimmer's itch.

"It's horribly itchy and takes about seven to 10 days to clear up," Granath said. "It affects everybody differently, but some people think it's worse than poison ivy. And there is no cure."

Granath did a study on Flathead Lake itch in 1992. He and his fellow researchers learned that the parasitic flatworm -- Trichobilharzia ocellata -- that causes swimmer's itch has a convoluted life cycle before it ends up as a series of red bumps on some unfortunate swimmer.

In Flathead Lake, he said, the natural hosts of the parasite are common merganser ducks and pea-sized snails called Stagnicola elrodi. Seagulls and Canada geese are sometimes hosts as well.

The adult flatworms are about a quarter inch long and customarily start their life cycle in the intestinal veins of mergansers. Granath said these parasites are an unusual species of flatworm

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because they have separate sexes. (Most flatworm species have both male and female sex organs.) The male is leaf-shaped, and the female cigar-shaped. Both have two suckers to affix to their host. These worms are normally found with the male wrapped in a canoe shape around the female, and they copulate for life. Because they reside in veins and feed on blood, they are often called blood flukes.

After they mate, the female lays spiny eggs, each containing a larval stage. These eggs then are passed out of the merganser duck in feces. When the eggs hit water they hatch, and microscopic critters called miracidia swim forth using hairlike cilia to propel themselves. A miracidium has one goal: to find a certain species of snail before it dies in a few hours.

If the parasite finds the right snail, it penetrates into the flesh and begins reproducing asexually. After six or seven weeks, the parasite becomes a cercaria -- a sperm-shaped creature with a forked tail. The cercaria then exits the snail, departing directly from the flesh, and begins swimming around looking for a nice cozy merganser to call home. Granath said cercariae are tiny, right at the edge of human visibility.

If the proper duck is found, the cercaria bores into the bird's flesh, losing its no-longer-needed tail in the process. The creature then migrates to the merganser's intestinal veins where it can reach adulthood and start the cycle anew. Granath said the ducks and snails are seldom harmed by this process and probably don't realize they are hosts.

However, cercariae can cause problems for humans. If the parasite bores into wet human skin in cercaria form, it soon recognizes it's not in a duck and dies. Penetration enzymes and all sorts of waste products are then released, causing intense inflammation and itching to the accidental host after about 12 hours. Each red bump contains one dead cercaria.

There is no cure for swimmer's itch, but Granath did offer some tips to help avoid the parasite:

- Don't swim in July and August. This is a hard sell, but Granath said these two months are when the parasite swims around in its cercaria stage and can impact humans.

- Stay in deep, cold water. Snails, one of the parasite's primary hosts, prefer warm, shallow areas with vegetation.

- Wear a coating of baby oil or waterproof sunscreen. Any barrier on the skin may prevent cercariae from burrowing in ... at least until it washes off.

- Towel off promptly and thoroughly after being in the water. Often the parasites can be rubbed off. Slowly evaporating water on skin prompts cercariae to burrow in. Especially watch areas that trap moisture such as the belt line on swimming trunks.

Granath said cortisone creams work for those who contract the itch. People who catch schistosome dermatitis start noticing itchy red bumps about 12 hours after they have been in the water.

"People can enjoy the water and still stay itch free," he said, "but they should watch where they go swimming."

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